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APPLICATION NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO.
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08/924,407 08/22/97 HOSSACK

EXAMINER

BRINKS HOFER GILSON & LIONE
PO BOX 10395
CHICAGO IL 60610

ART UNIT	PAPER NUMBER
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DATE MAILED:

09/22/98

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

OFFICE ACTION SUMMARY

☒ Responsive to communication(s) filed on 8-17-98

☐ This action is FINAL.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 D.C. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-99 is/are pending in the application.

Of the above, claim(s) 62-71 is/are withdrawn from consideration.

☐ Claim(s) is/are allowed.

☒ Claim(s) 1-7, 32-33, 48-51 and 83-86 is/are rejected.

☒ Claim(s) 8-31, 34-47, 52-61 is/are objected to.

☒ Claim(s) 72-82 and 87-99 are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number)

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received:

☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of Reference Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 4,6 (6 sheets total)

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

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--SEE OFFICE ACTION ON THE FOLLOWING PAGES--

Art Unit: 3737

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-7, 32-33, 48-51, 83-86 are rejected under 35 U.S.C. 103(a) as being unpatentable over (a)Seward et al(US5699805) and Panescu et al(US5740808) or (b)Umemura et al.

Seward et al teaches in Col. 5 lines15-21 and lines 39-54 that this three-dimensional catheter-based system would include harmonic echocardiography, without further specifying sans contrast agent presence. Panescu et al also directed via Fig. 8 to a 3D ultrasound catheter-based imaging system states in Col. 19 line 63-Col. 20 line 18 that second harmonics sans contrast agent may form such echocardiography. The two references are therefore grouped together to represent the catheter art as pertains to these claims. Alternatively, Umemura et al is likewise applied against the broadest claims here insofar as Col. 4 lines 22-29 considered together with lines 30-68 especially lines 40-43 provide a teaching of generating second harmonics for 3D imaging using the non-linear tissue harmonic effect of higher power ultrasonic wave transmissions.

3. Claims 60-61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seward et al ('805) and Panescu ('808) as applied to claim 1 above, and further in view of Seward et al Figs. 14-17 showing the obviousness of performing volumetric imaging using an elevationally divergent lens and area array.


4. Claims 72-82 and 87-99 are allowable over the prior art.

Art Unit: 3737

5. Any inquiry concerning this communication should be directed to Examiner Francis J. Jaworski at telephone number (703) 308-3061.

FJJ:fjj

9-17-98



Francis J. Jaworski
Primary Examiner